

Docket No.: 50179-087

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of :
:
Robyn Joyce RUSSELL, et al. :
:
Serial No.: :
(Divisional of Serial No. 09/068,960) : Group Art Unit:
:
Filed: February 06, 2001 : Examiner:
:
For: MALATHION CARBOXYLESTERASE

TRANSMITTAL OF FORMAL DRAWINGS

Commissioner for Patents
Washington, DC 20231

Sir:

Sixteen (16) sheets of formal drawings are submitted herewith as filed in parent application Serial No. 09/068,960.

Respectfully submitted,

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SEQ ID NO:8	Lc743	M	N	F	N	V	S	L	M	E	K	L	K	W	K	I	K	C	I	E	N	20
SEQ ID NO:10	Rm8con	1	60	
SEQ ID NO:7	Lc743		ATGAATTCAACGTTAGTTTGATGGAGAAATTTAAATGGAAGATTAAATGCATTGAAAT	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
SEQ ID NO:1	Rm8A		.....LC743/5'.....	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SEQ ID NO:3	Rm8B		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SEQ ID NO:5	Rm8C		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SEQ ID NO:9	Rm8con		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SEQ ID NO:12	Lc743		K	E	L	N	Y	R	L	T	T	N	E	T	V	V	A	E	T	E	Y	G
SEQ ID NO:14	Rm8con	61	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	120
SEQ ID NO:16	Lc743		AAGTTTTAAACTATCGTTTAACTACCATTGAACGGTGGTAGCTGAACCTGAATATGGC	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
SEQ ID NO:18	Rm8A		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SEQ ID NO:20	Rm8B		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SEQ ID NO:22	Rm8C		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SEQ ID NO:24	Rm8con		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SEQ ID NO:26	Lc743		K	V	K	G	V	K	R	L	T	V	Y	D	S	Y	Y	S	F	E	G	60
SEQ ID NO:28	Rm8con	121	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	180
SEQ ID NO:30	Lc743		AAAGTGAAGGGCTTAAACGTTTAACTGTGTACGATGATTCCTACTACAGTTTGGGGT	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
SEQ ID NO:32	Rm8A		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SEQ ID NO:34	Rm8B		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SEQ ID NO:36	Rm8C		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SEQ ID NO:38	Rm8con		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SEQ ID NO:40	Lc743		I	P	Y	A	Q	P	P	V	G	E	L	R	F	K	A	P	Q	R	P	T
SEQ ID NO:42	Rm8con	181	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	240
SEQ ID NO:44	Lc743		ATACCGTAGCCCAACGCCAGTGGGTGAGCTGAGATTAAACGACCCCGACGCCAACACA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
SEQ ID NO:46	Rm8A		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SEQ ID NO:48	Rm8B		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SEQ ID NO:50	Rm8C		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SEQ ID NO:52	Rm8con		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

FIG. 1A

[illegible]

FIG. 1B

Lc743	I	N	I	Q	Y	R	L	G	A	L	G	F	L	S	L	N	S	E	D	L	180
Rm8con	481	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	540	
Lc743	A	T	T	A	C	A	A	T	C	G	T	T	G	G	A	G	T	C	T	A	540
Rm8A	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
Rm8B	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
Rm8C	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
Rm8con	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
Lc743	N	V	P	G	N	A	G	L	K	D	Q	V	M	A	L	R	W	I	K	N	200
Rm8con	541	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	600	
Lc743	A	A	T	G	C	C	G	C	T	A	A	G	A	T	C	A	G	T	C	A	600
Rm8A	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
Rm8B	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
Rm8C	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
Rm8con	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
Lc743	N	C	A	N	F	G	N	P	D	N	I	T	V	F	G	E	S	A	G	220	
Rm8con	601	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	660	
Lc743	A	A	T	G	C	C	A	C	T	T	G	T	G	C	A	T	T	A	C	A	660
Rm8A	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
Rm8B	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
Rm8C	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
Rm8con	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
Lc743	A	A	S	T	H	U	M	M	L	T	E	Q	T	R	G	L	F	H	R	G	240
Rm8con	661	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	720	
Lc743	G	C	T	C	T	A	C	C	A	T	G	T	A	C	C	G	A	C	T	C	720
Rm8A	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
Rm8B	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
Rm8C	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
Rm8con	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	

FIG. 1C

Lc743	I	L	M	S	G	N	A	I	C	P	W	A	N	T	Q	C	Q	H	R	A	260
Rm8con	721	L	780	
Lc743	ATACTAATGTCGGGTAATGCTATTGTCCATGGGCTAATACCCAATGTCAACATCGTGCC	+																			
Rm8A	..	+																			
Rm8B	..	+																			
Rm8C	..	+																			
Rm8con	..	+																			
Lc743	F	T	L	A	K	L	A	G	Y	K	G	E	D	N	D	K	D	V	L	E	280
Rm8con	781	840	
Lc743	TTCACTTAGCCAAATTGGCCGCTAAGGGTGAGGATAATGATAAGGATGTTTTGGAA	+																			
Rm8A	..	+																			
Rm8B	..	+																			
Rm8C	..	+																			
Rm8con	..	+																			
Lc743	F	L	M	K	A	K	P	Q	D	L	I	K	L	E	E	K	V	L	T	L	300
Rm8con	841	900	
Lc743	TTTCTTATGAAGCCCAAGCCACAGGATTTAATAAACTTGAGGAAAAAGTTTAACTCTA	+																			
Rm8A	..	+																			
Rm8B	..	+																			
Rm8C	..	+																			
Rm8con	..	+																			
Lc743	E	E	R	T	N	K	V	M	F	P	F	G	P	T	V	E	P	Y	Q	T	320
Rm8con	901	960	
Lc743	GAAGAGCCTACAAATAGGTCATGTTTCCTTTGGGCCCACTGTTGAGCCATATCAGACC	+																			
Rm8A	..	+																			
Rm8B	..	+																			
Rm8C	..	+																			
Rm8con	..	+																			

FIG. 1D

Lc743	A	D	C	V	L	P	K	H	P	R	E	M	V	K	T	A	W	G	N	S	340
Rm8con	961																				
Lc743	G	C	T	A	T	T	G	T	T	A	C	C	A	A	C	A	T	C	T	C	1020
Rm8A	.....																			
Rm8B	.....																			
Rm8C	.....																			
Rm8con	.....																			
Lc743	I	P	T	M	M	G	N	T	S	Y	E	G	L	F	F	T	S	I	L	K	360
Rm8con	1021																				
Lc743	A	T	A	C	C	A	C	T	A	T	G	G	T	A	C	T	C	A	T	T	1080
Rm8A	.....																			
Rm8B	.....																			
Rm8C	.....																			
Rm8con	.....																			
Lc743	Q	M	P	M	L	V	K	E	L	E	T	C	V	N	F	V	P	S	E	L	380
Rm8con	1081																				
Lc743	C	A	A	T	G	C	T	A	T	G	T	T	A	G	A	A	T	T	G	T	1140
Rm8A	.....																			
Rm8B	.....																			
Rm8C	.....																			
Rm8con	.....																			
Lc743	A	D	A	E	R	T	A	P	E	T	L	E	M	G	A	K	I	K	K	A	400
Rm8con	1141																				
Lc743	G	C	T	G	A	T	G	A	C	C	G	C	C	C	A	G	A	C	T	T	1200
Rm8A	.....																			
Rm8B	.....																			
Rm8C	.....																			
Rm8con	.....																			

FIG. 1E

Lc743	H	V	T	G	E	T	P	A	D	N	F	M	D	L	C	S	H	I	Y	420
Rm8con	1201	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1260
Lc743	C	A	T	G	T	A	C	A	C	T	G	A	T	T	T	A	T	T	T	1260
Rm8A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1260
Rm8B	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1260
Rm8C	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1260
Rm8con	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1260
Lc743	F	W	F	P	M	H	R	L	L	Q	L	R	F	N	H	T	S	G	T	440
Rm8con	1261	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1320
Lc743	T	T	C	G	T	T	C	C	C	A	T	G	C	A	T	T	T	T	T	1320
Rm8A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1320
Rm8B	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1320
Rm8C	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1320
Rm8con	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1320
Lc743	V	Y	L	Y	R	F	D	F	D	S	E	D	L	I	N	P	Y	R	I	460
Rm8con	1321	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1380
Lc743	G	T	C	T	A	T	T	G	A	C	T	T	T	G	A	G	A	T	T	1380
Rm8A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1380
Rm8B	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1380
Rm8C	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1380
Rm8con	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1380
Lc743	R	S	G	R	G	V	K	G	V	S	H	A	D	E	L	T	Y	F	W	480
Rm8con	1381	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1440
Lc743	C	G	T	A	T	G	G	A	C	T	T	A	G	G	T	T	A	T	T	1440
Rm8A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1440
Rm8B	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1440
Rm8C	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1440
Rm8con	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1440

FIG. 1F

Lc743	N	Q	L	A	K	R	M	P	K	E	S	R	E	Y	K	T	I	E	R	M	500	
Rm8con	1441	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1500	
Lc743	A	A	T	C	A	T	T	G	C	T	A	A	G	A	T	C	G	T	G	A	T	
Rm8A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rm8B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rm8C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rm8con		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lc743	T	G	I	W	I	Q	F	A	T	T	G	N	P	Y	S	N	E	I	E	G	520	
Rm8con	1501	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1560	
Lc743	A	C	T	G	T	A	T	G	G	A	T	T	G	C	C	A	C	T	G	G	T	
Rm8A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rm8B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rm8C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rm8con		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lc743	M	E	N	V	S	W	D	P	I	K	K	S	D	E	V	Y	K	C	L	N	540	
Rm8con	1561	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1620	
Lc743	A	T	G	G	A	A	T	G	T	T	C	T	G	G	A	T	C	C	A	A	T	
Rm8A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rm8B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rm8C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rm8con		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lc743	I	S	D	E	L	K	M	I	D	V	P	E	M	D	K	I	K	Q	W	E	560	
Rm8con	1621	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1680	
Lc743	A	T	T	A	G	T	G	A	A	T	G	A	A	T	G	A	T	G	A	A	T	
Rm8A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rm8B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rm8C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rm8con		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

FIG. 1G

Lc743		S	M	F	E	K	H	R	D	L	F	*	570
Rm8con	1681	-----+-----											1713
Lc743		TCGATGTTG	AAAAACATG	AGATTTT	XTTTT	TTAG							
Rm8A		.....	.....	.....	.....	.....		
Rm8B		.....	.....	.....	.....	.....		
Rm8C		.....	.....	.....	.....	.....		
Rm8con		.....	.....	.....	.....	.....		

FIG. 1H

SEQ ID NO:13	MdαE7	1	MTFLKQFIPLKLCVKCMVKNKYTNRYRLSTNETQIIDTEYGQIKGVKRMVTY	50
SEQ ID NO:8	LcαE7	1	MFNFVSLMEKLIKWKIKCIENKFLNRYRLTTNETVVAETEYGVKGVKRLTY	50
		51	YDDSYSFESIPYAKPPVVGELRFKAPQUPVPWEGVRDCCGPANRSYQTDf	100
		51	YDDSYSFEGIPYAQPPVGELRFKAPQRPWPDGVRDCCNHKKDSYQVDF	100
		101	ISGKETGSEDCLYLNVTNDINPDKRRPVMVFIHGGDFIFGEANRNWFGP	150
		101	ITGKVGSEDCLYLSVYTNLNPETKRPVLVYIHGGFFIENHRDMYGP	150
		151	DYFMKKPVVLVTVOYRLGVIGFLSKSENINVPGNAGLKDQVMALRWKS	200
		151	DYFIKDDVLINIQRLGALGFLSNSEDLNVPGNAGLKDQVMALRWIKN	200
		201	NIAIFGGVDNITVFGESAGASTHYMMITEQTRGLFHRGIMMSGNSMCS	250
		201	NCANTGGNPDNITVFGESAGASTHYMMLTEQTRGLFHRGILMSGNAICP	250
		251	WASTECCSRALTMAKRVGKGEDNEKDILEFILMKANPYDLIKEEPQVLTP	300
		251	WANTQCQHRAFTLAKLAGYKGEDNDKDVLEFILMKAKPQDLIKEEKVITL	300
		301	ERMQNKVMFPFGPTVEPYQTADCVVPKPIREMVKSAWGNSTPTLIGNTSY	350
		301	EERTNKVMFPFGPTVEPYQTAKCVLPKHPRENVKTAWGNSTPTMGMNTSY	350
		351	EGLLSKSVAKQYPEVVKLESCVNVYPWELADSERSAPETLERAAIVKKA	400
		351	EGLFFTSILKQMPMLVKELEICVNFVPSLADAEIAPETLEMGAIKKKA	400

FIG. 2A

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401  HVDGETLDNFMELCSYFYFLFPMHRELOURENHTAGTPIYLYRFDSDS 450
    ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
401  HVTGETPTADNFMDLCSHYFYFWFPMHRLLOURENHTSGTPVLYRFDSDS 450
    ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
451  EEIINPYRIMRFGRGVGVSHADELTFLFWNILSKRLPKESREYKTIERM 500
    ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
451  EDLINPYRIMRSGRGVGVSHADELTFFWNQLAKRMPKESREYKTIERM 500
    ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
501  VGIWTEFATTCGKPYSNNDIAGMENLTWDPIKSDDDVYKCLNIGDELKVMDS 550
    ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
501  TGIWIOFATTCGNPYSNEIEGMENVSWDPIKSDDEVYKCLNISDELKMDV 550
    ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
551  PEMDKIKQGASIFDKKKELF 570
    ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
551  PEMDKIKQWESMFEKHRDLF 570
    ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

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FIG. 2B

SEQ ID NO:14

1 ATGACTTTTCTGAAGCAATTCAATATTTTCGCCTGAARCTATGCTTTAATGCATGGTCAAT 60
TACTGAAAGACTTCGTTTAAGTATAAAGCGGACTTTGATACGAATATTACGTACCACTTA

SEQ ID NO:13

M T F L K Q F I F R L K L C F K C M V N -

61

AAATACACAAACTACCGTCTGAGTACAAATGAACCCAAATAATCGATACTGAATATGGA 120
TTTATGCTTTTGATGGCAGACTCATGTTTACTTTGGGTTTATTAGCTATGACTTATACCT

121

K Y T N Y R L S T N E T Q I I D T E Y G -
CAATTAAGGGTGTTRAGCGAATGACCGTCTAGGATGATTCTTACTACAGTTTCGAGAGT 180
GTTTAATCCCACAATTCGCTTACTGGCAGATGCTTACTAAGAAATGATGTCAAAGCTCTCA

181

Q I K G V K R M T V Y D D S Y Y S F E S -
ATACCTATGCTAAGCCTCCAGTGGGTGAGTTGAGATTCARGGGACCCCGAGCGCCCTGTA 240
TATGGGATACGATTCGGAGGTCAACCACTCACTTAAGTCCGTTGGGGTCCGCCGGACAT

241

I P Y A K P P V G E L R F K A P Q R P V -
CCATGGGAGGGTGTACGTGATTGCTGTGGGCCAGCCAAACAGATCGGTACAGACAGATTTC 300
GGTACCCCTCCACATGCATTAACGACACCCGGTCGGTTGTCTAGCCATGTCTGTCTAAAG

P W E G V R D C C G P A N R S V Q T D F -

301

ATAAGTGGCAAAACCCACAGGTTTCGGAGGATTTGCTATACCTGAATGTGTATACCAATGAC 360
TATTCACCGTTTGGGTGCCAAGCCTCCTAACAGATATGGACTTACACATATGTTTACTG

I S G K P T G S E D C L Y L N V Y T N D -

FIG. 3A

361 TTGAACCCAGACAAAGGGCTCCTGTTATGGTTTTTCATCCATGGGGAGATTTATTTTC 420
 AACTTGGGTCTGTTTTCCGAGGACAAATACCAAAGTAGGTACCGCTCTAAAATAAAG
 L N P D K R R P V M V F I H G G D F I F -
 421 GGGAAGCAAATCGTAACTGGTTTGGTCCCGACTACTTTTATGAAGAAACCCGTGGTCTTG 480
 CCGCTTCGTTTTAGCATTGACCAACACGAGGCTGATGAATACTCTTTTGGGCACCAAGAC
 G E A N R N W F G P D Y F M K K P V L -
 481 GTACCGTGCAATATCGTTTTGGGTGTGGTTTTCTTTAGCCTGAAATCGGAAATCTC 540
 CATGGCAGCTTATAGCAACCCACACACCAAGGAATCGGACTTTAGCCTTTTAGAG
 V T V Q Y R L G V L G F L S L K S E N L -
 541 AATGTCGGGGAACGCTGGCCTCAAGATCAAGTAATGGCCTTGAGATGGGTCAAGAGT 600
 TTACAGGGCCGTTGGACCGAGTTCCTAGTTCATTACCGGAATCTATCCAGTTCTCA
 N V P G N A G L K D Q V M A L R W V K S -
 601 AATATTGCCATTTTCGGTGGGATGTAGACAATATTACCGTCTTCGGCGAAAGTGTGTGT 660
 TTATAACGGTAAAGCCACCGCTACATCTGTTATAATGGCAGAACCGGCTTTTCACGACCA
 N I A I F G G D V D N I T V F G E S A G -
 661 GGGGCTCAACCATTTACATGATGATAACCGAACAGACAGCCCGTGGTTTATTCATCGTGGT 720
 CCCCAGTTGGGTAATGTAATACTACTATTGGCTTGCTGGGACCAATAATAGGTAGCACCA
 G A S T H Y M M I T E Q T R G L F H R G -

FIG. 3B

ATCATGATGTCGGTAATTCCATGTGCTCATGGGCTCTACAGAAATGCCAAAGTCGTGGC 780
 TAGTACTACAGCCATTAGGTACACGAGTACCCGAGATGCTTACGGTTTCAGACGC
 I M S G N S M C S W A S T E C Q S R A -
 CTACCATGGCCAAACGTGTGGCTATAAGGGAGAGACAAATGAAAAGATATCCTGGAA 840
 GAGTGTACCGGTTTGCACAAACGATATCCCTCTCCTGTACTTTTCTATAGGACCTT
 L T M A K R V G Y K G E D N E K D I L E -
 TTCTAATGAAGCCCAATCCCTATGATTGATCAAGAGGAGGCCACAGTTTGTACACCC 900
 AAGGATTACTTTTCGGTAGGATACTAATACTAGTTTCTCCTCGGTGTTCAAACCTGTGGG
 F L M K A N P Y D L I K E E P Q V L T P -
 GAAGAAATGCAAAATAAGTCATGTTTCTTTTGGACCCACTGTAGAACCATACCAACA 960
 CTTTCTTACGTTTTATTCCAGTACAAGGAAACCTGGGTGACATCTTGGTATGGTCTGT
 E R M Q N K V M F P F G P T V E P Y Q T -
 GCCGACTGTGTGTACCCAAACCAATCAGAGAAATGTTGAAGAGCGCCTGGGGAATTCG 1020
 CGGCTGACACACCATGGGTTGGTTAGTCTCTTACCACCTTCTCGCGGACCCCTTTAAGC
 A D C V V P K P I R E M V K S A W G N S -
 ATACCCACATGATAGCAATACCTCCCTACGAGGTTTGTCTTCCAAATCAATTGCCAA 1080
 TATGGGTGTAATACTATCCGTTATGGAGGATGCTTCCCAACGAAAGTTTAGTTACGGTTT
 I P T L I G N T S Y E G L L S K S I A K -

FIG. 3C

1081 CAATATCGGAGGTTCTAAAGAGTTGGAATCCTGTGTGTAATTATGTGCCTTGGGAGTTG 1140
 GTATAGGCCTCCACATTTTCTCAACCTTAGGACACACTAATACAGGAACCCCTCAAC
 Q Y P E V V K E L E S C V N Y V P W E L -
 1141 GCTGACAGTGAACGAGTGCCTCCGAAACCTGGAGAGGCTGCCATTGTGAAAGAGCC 1200
 CGACTGTCACTTGGTCACGGGGCCTTTGGGACCTCTCCGACGGTAACACTTTTCCGG
 A D S E R S A P E T L E R A A I V K K A -
 1201 CATGTGGTGGGAACACACTACTCTGGATAATTTTATGGAGCTTGTCTCCTATTTCTAT 1260
 GTACACCTACCCCTTTGTGGATGAGACCTATTAAATACTCGAAGCAGGGAATAAGATA
 H V D G E T P T L D N F M E L C S Y F Y -
 1261 TTCTCTTCCCATGATCGCTTCTCTAAATTGCGCTTCAACCACACAGCTGGCAGCTCCC 1320
 AAGGAGAAAGGGTACGTAGGAAGGATGTAAAGCGAAGTTGGTGTGCGACCGTGAGGG
 F L F P M H R F L Q L R F N H T A G T P -
 1321 ATTATTTGTATCGTTTCGATTTTCGATTCGGAAGAAATTAACCCCTATCGTATTATG 1380
 TAATAACATAGCAAGCTAAAGCTAAGCTTCTTTAATAATTGGGGATAGCATAATAC
 I Y L Y R F D F D S E E I I N P Y R I M -
 1381 CGTTTGGCCGTGGCGTTAAAGGTGAAGCCATGCCGATGAGCTAACCTATCTCTCTGCG 1440
 GCAAAACCGGACCGCAATTTCCACATTCGGTAGGGCTACTCGGATGGATAGAGAAGCC
 R F G R G V K G V S H A D E L T Y L F W -

FIG. 3D

SEQ ID NO:15	MαE7	97	QTDFISCKPTGSEDCLYLNVTNDLNDKDKRPVMVFTHGGGFIIGEARNR	146
SEQ ID NO:43	LαE7	97	QYDFITGKVCSEDCLYLSVYTNLNPETKRPLVYTHGGGFIIGENHRD	146
		147	WYGPDYFMKKPVLVTYQYRLGVLGFLSLKSENLVNPGNAGLKDQVMALR	196
		147	MYGPDYFIKKDVLINIQYRLGALGFLSLNSEDLVNPGNAGLKDQVMALR	196
		197	WPKSNIAIFGGVDNITVFGEAGGASTHYMMITEQTRGLFHRGIMMSGN	246
		197	WIKNNCANFGGNPDNITVFGEAGASTHYMMITEQTRGLFHRGILMSGN	246
		247	SMCSSASTECSRALTMAKRVGYKGEENEKDIIEFLMKANPYDLIKEPPQ	296
		247	AICPLANTQCQHRAFTIAKLAGYKGEDNDKDVLEFLMKAKPDLIKLEEK	296
		297	VLTPERM	303
		297	VLTLEER	303

FIG. 4